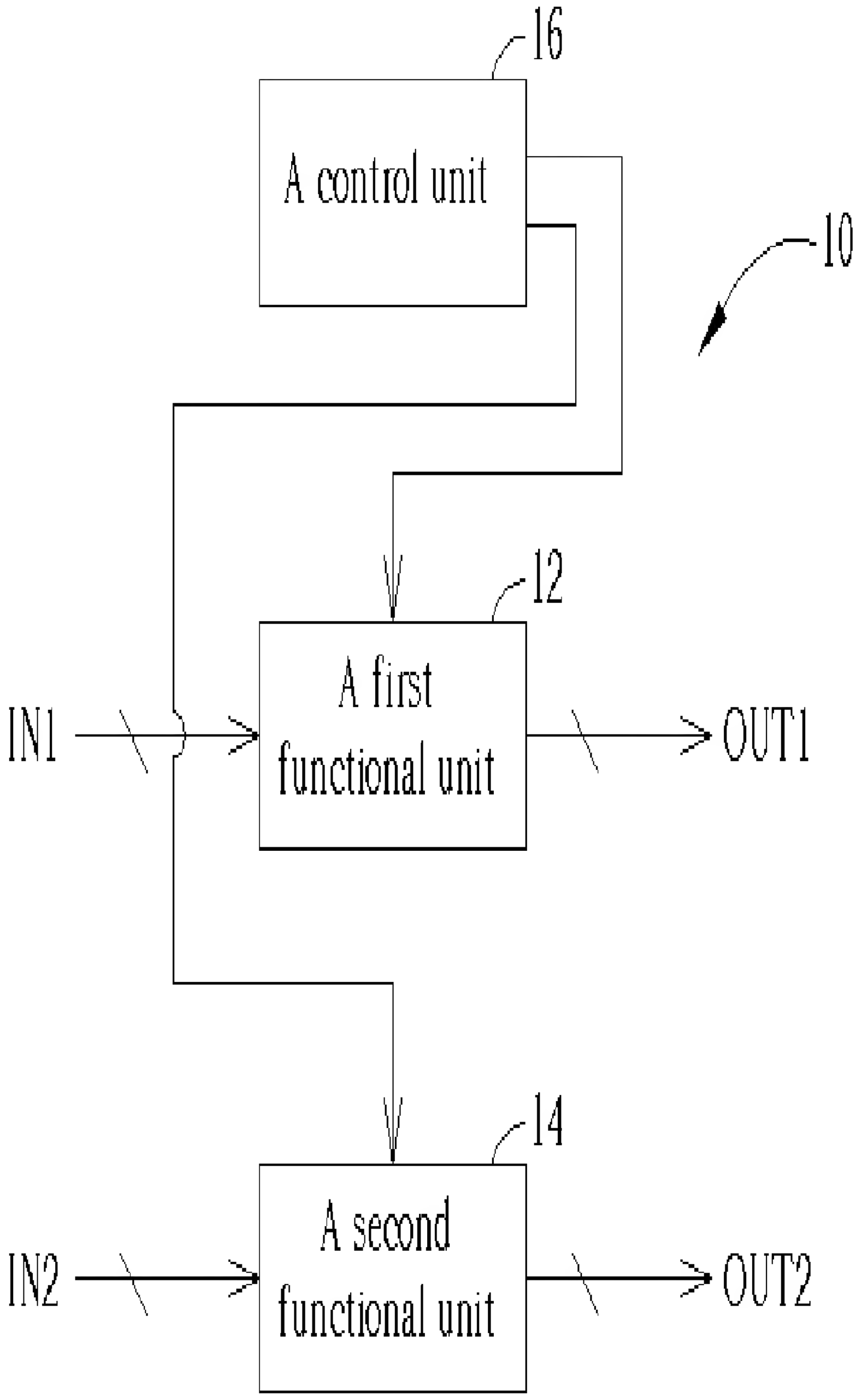
16
A control unit
10
12
A first functional unit
IN1
OUT1
14
A second functional unit
IN2
OUT2

Fig. 1

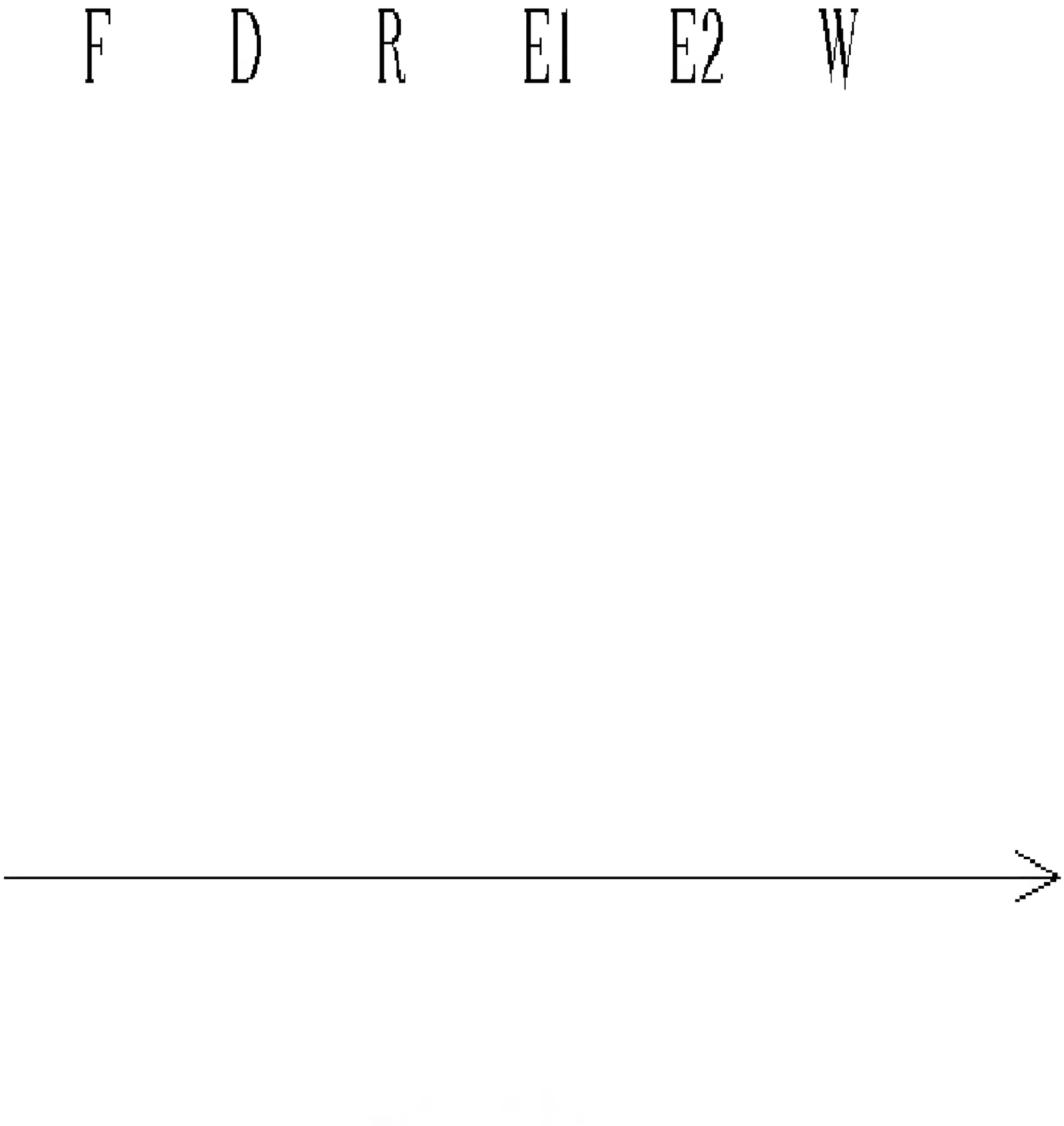

Fig. 2

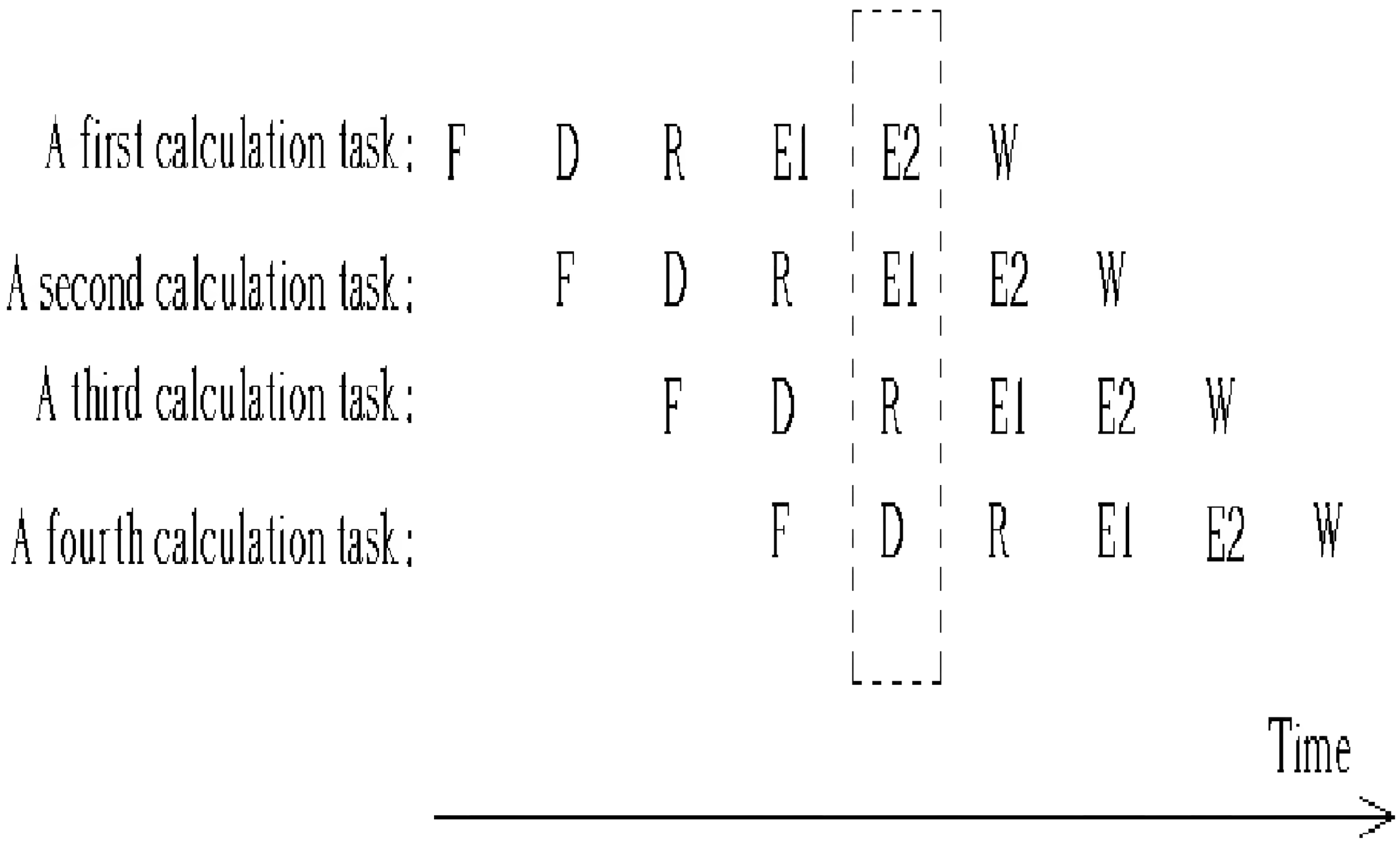
A first calculation task: F D R E1 E2 W
A second calculation task: F D R E1 E2 W
A third calculation task: F D R E1 E2 W
A fourth calculation task: F D R E1 E2 W
Time

Fig. 3

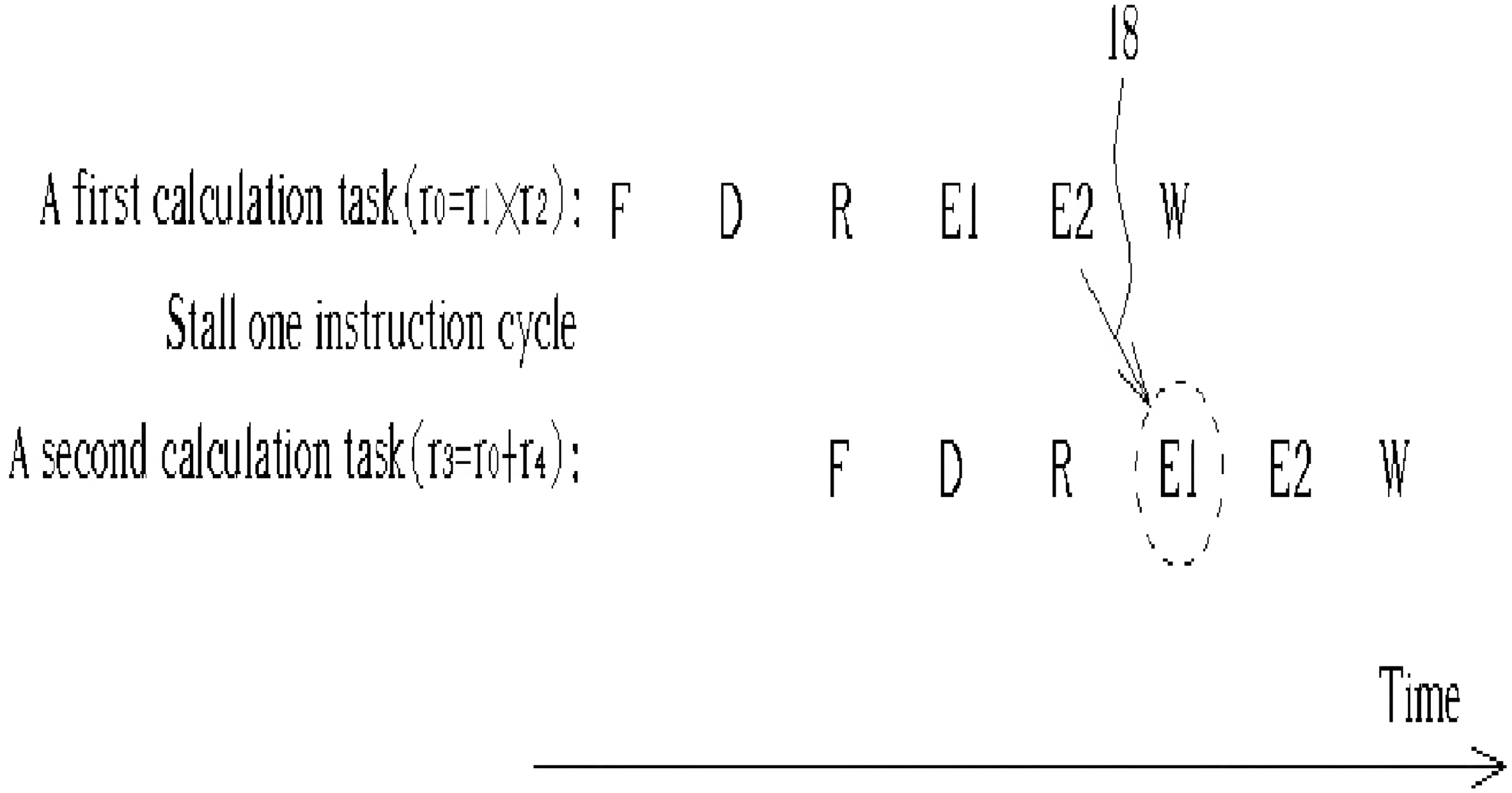
18
A first calculation task(r0=r1×r2):
F D R E1 E2 W
Stall one instruction cycle
A second calculation task(r3=r0+r4):
F D R E1 E2 W
Time

Fig. 4

20
A first calculation task(r0=r1+r2):
F
D
R
E1
E2
W
Stall one instraction cycle
A second calculation task(r3=r0×r4):
F
D
R
E1
E2
W
Time

Fig. 5

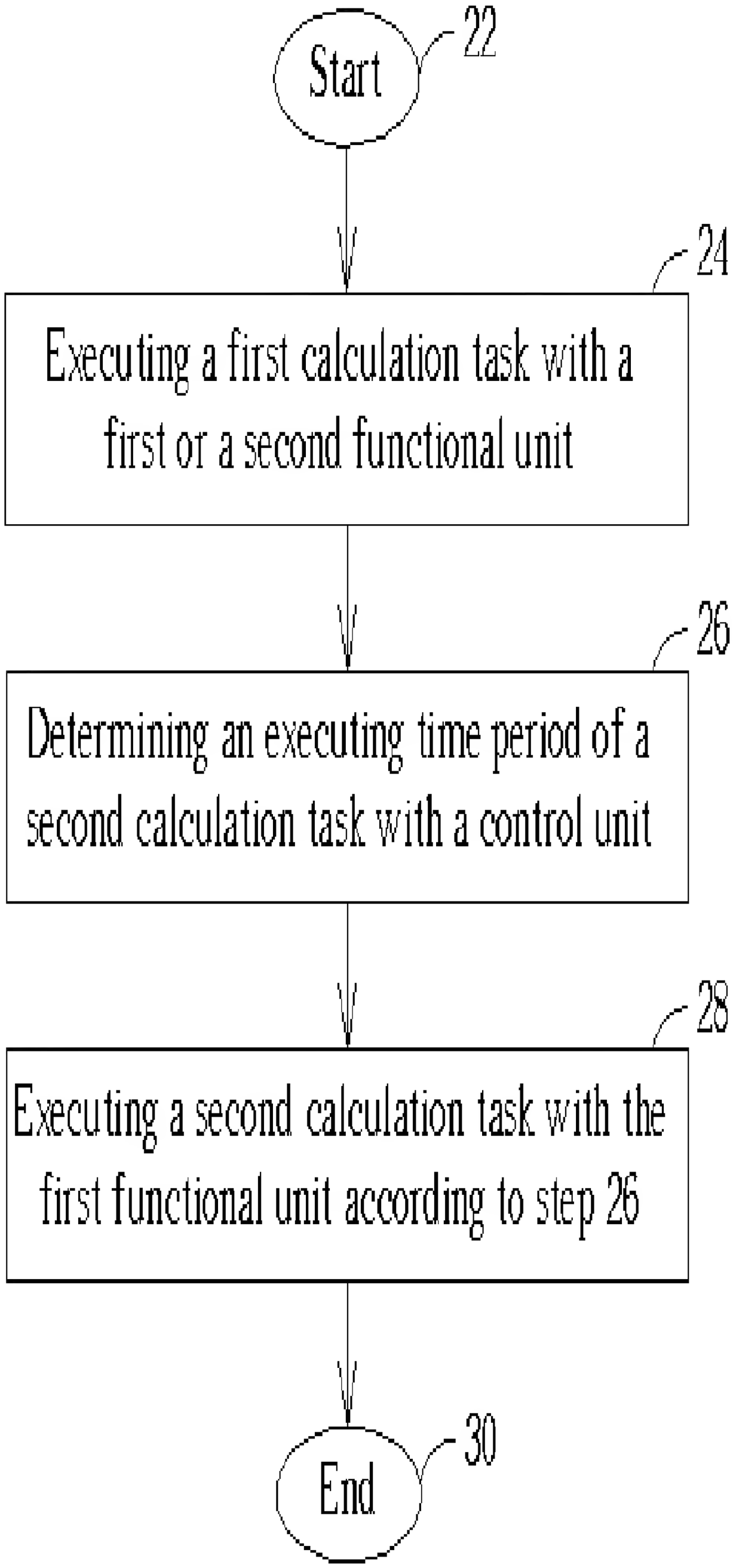
Start
22
Executing a first calculation task with a first or a second functional unit
24
Determining an executing time period of a second calculation task with a control unit
26
Executing a second calculation task with the first functional unit according to step 26
28
End
30

Fig. 6

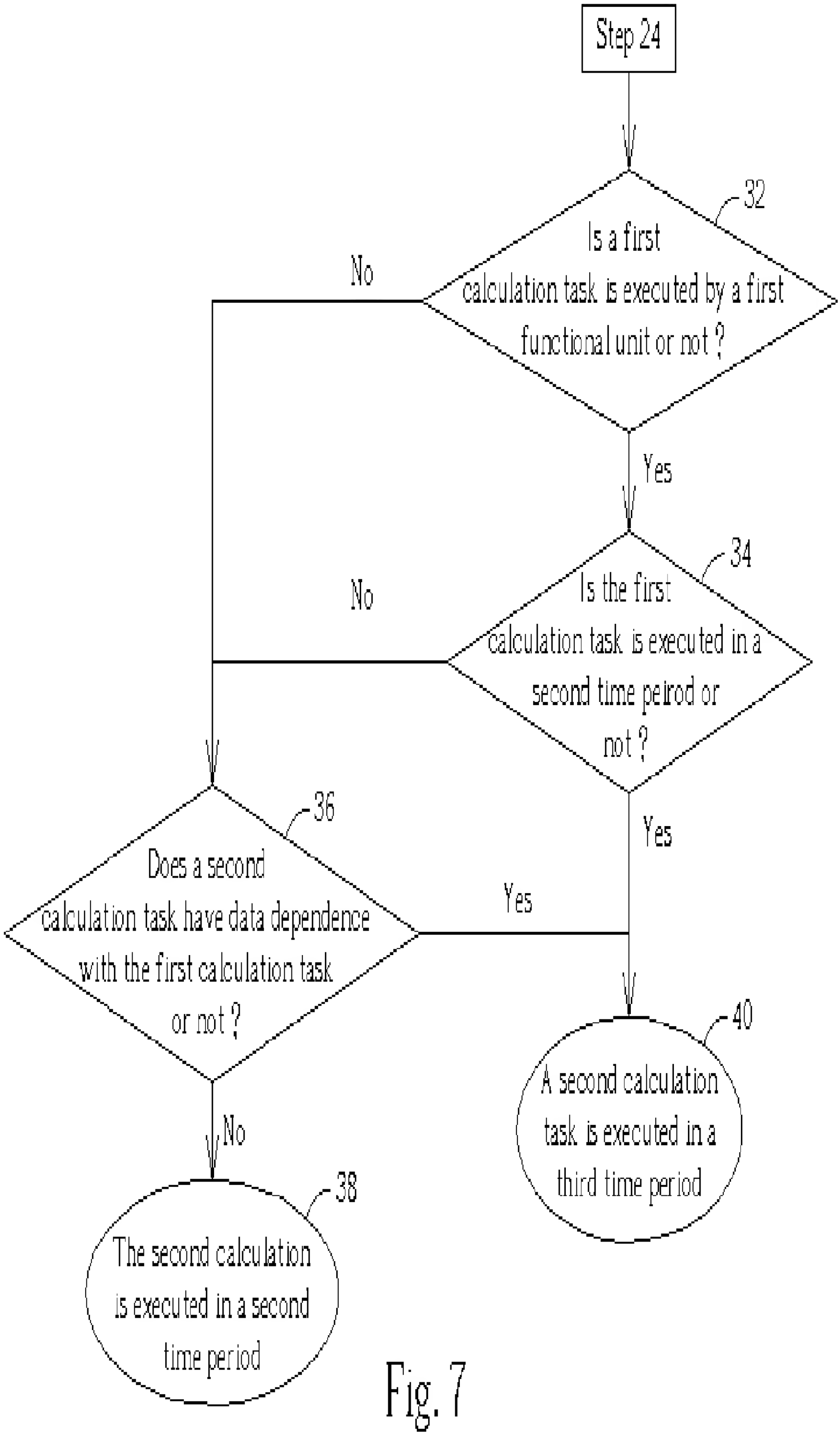
Step 24
32
Is a first calculation task is executed by a first functional unit or not ?
No
Yes
34
Is the first calculation task is executed in a second time peirod or not ?
No
Yes
36
Does a second calculation task have data dependence with the first calculation task or not ?
Yes
No
38
The second calculation is executed in a second time period
40
A second calculation task is executed in a third time period

Fig. 7

Is a first calculation task executed a first functional unit or not?	Is a first calculation task of a first functional unit executed in E2 level or not?	Does a second calculation task have data dependence with a first calculation task or not?	Is a second calculation task of a first functional unit executed in E2 level or not?
0	X	0	0
0	X	1	1
1	0	0	0
1	0	1	1
1	1	0	1
1	1	1	1

Fig. 8